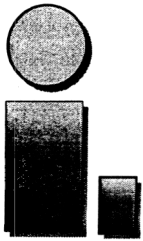


JUN 18 2002

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## INTEGRATED LIGHTING CONCEPTS

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To: California Energy Commission  
FROM: Bernard V. Bauer, LC IES ISP  
DATE JUNE 14, 2002  
RE: June 6<sup>th</sup> 2002 draft of proposed Title24 Exterior Lighting

The following correspondence has been generated in response to my review of the June 6<sup>th</sup> 2002 draft of proposed Title24 Exterior Lighting. I would have preferred to present comments to the commission in person at the public review however; I am not able to participate in the June 18<sup>th</sup> workshop. Therefore, my observations, comments and concerns are being submitted through this writing.

### GENERAL STATEMENT

As a lighting professional with expertise in retail lighting and high regard for energy efficiency and environmentally responsible design I fully support the Commissions directive and desire to regulate use of energy in the areas of unconditioned space and exterior environments. However, I cannot support the current proposal as issued on June 6<sup>th</sup>. There are numerous key components of the document that in my professional opinion have led to proposed wattage allocations which will inhibit responsible design and may in fact lead to legal issues surrounding inadequate illumination.

Here are my comments and observations with respect to the June 6<sup>th</sup> Draft document:

### COMMENTS – OBSERVATIONS DOCUMENT OVERVIEW

- The document was released to close to the public workshop date to assure that CEC will receive adequate qualified and valuable input from the professional lighting community as well as other interested parties. A week is not sufficient. Documents ideally would be available a month before a public workshop.
- It appears that the reference base for exterior retail lighting in particular is taken from RP33; I propose that RP2 is a more appropriate document for retail lighting. RP2-2001 is the IESNA's latest board approved document on retail lighting. This new IESNA document includes additional information not present in RP33 or the IESNA Handbook. In addition there is current, though not yet published, work being done by an IESNA sub-committee with reference to exterior retail that has even more in-depth information than RP2. While this information may not be appropriate to reference, CEC and its contractors should at least review this documentation.
- I question whether the models used to determine appropriate illumination levels and resultant permitted power density have been proven in real-world examples. Case in point has anyone actually seen a gas station island illuminated to 5FC or even 10FC for that matter. Is the state of California opening it self to liability issues recommending illumination levels such as these? Where are the real world examples to prove this design model valid? I am willing to change my opinion, but no one has yet shown me that the recommendations in documents like RP33 actually work. There are similar issues with the automotive sales model as well as others.
- There are other issues I have with this current proposal as well, such as hard-scape, landscape and canopy lighting recommendations. However, I will defer to other professionals with expertise in these areas to express their concerns.

## COMMENTS – OBSERVATIONS SPECIFIC PAGES

- On Page 5: The term Street front row would be more appropriately termed as front row and or accent. Allowing for accent levels in an area other than the front row although most dealers will undoubtedly use the street front row for accent.
- On Page 5: While the watts per square foot for general sales area lot lighting appears adequate for zones 2 and 3 and perhaps more than needed in zone 4, the front row/street row accent lineal foot allocations are very low and will not support the power density required to do adequate front row presentation. I suggest these numbers need to be about double the current numbers for Zones 2 and 3; Zone 4 may require less of an increase. Perhaps only 50%
- On Page 10: No reference to RP2 as a guide to exterior retail lighting guides/standards. I believe this IESNA board approved and published document better represents the need for exterior retail illumination than does RP33. RP33 is fine for an environmentally sensitive area but not adequate for retail in suburban and urban zones.
- On Page 27: For active canopy entrances, while 2FC to 15FC may be adequate for functional illumination requirements these levels are too low for instances where entry presence and theme statements, esthetic elements and merchandizing considerations are also part of the lighting goals at the entrance. I would suggest that 10FC-30FC is more appropriate given these additional factors. The added power to do this lighting could be in the form of a use it or lose it category as it is with interior accent and theme lighting in retail.
- On Page 31: Similar problems with the recommended illumination levels appear in this area on façade lighting as well. Similar to comments on page 27 above. Some provision needs to be made for selective higher accent levels of illumination. Especially for Zones 3 and 4.
- On Page 35: Use of Tables 26 and 27 in conjunction in this area is confusing.
- On Page 35: Recommended illumination levels are way too low. They are the RP33 numbers. I don't believe adequate and proven "Real World" models have proven these illumination levels adequate for the retail applications as well as the task functions within the areas. Numbers stated within RP2 are closer to current industry wide responsible design. The RP2 numbers are based on using current available equipment and proven; yet responsible design practices. Everyone (almost) will agree that we don't need 100FC and vertical glare to pump gas, but has it been proven that 5FC is safe and won't present a dangerous situation and possible legal action with respect to inadequate illumination when an accident does (may occur)?
- On Page 41: Tables 31 and 32 appear to be based on guidelines as set forth in RP33. I believe the recommendations in IESNA RP2-2001 for exterior retail, specifically for auto sales are more appropriate given current and near future lamp/luminaire technology as well as proven, but responsible lighting application. Also there is an IESNA sub-committee currently working on a DG which though not yet public published information has a lot of good material that the CEC may want to review before finalizing this code.